NASA 2009 Lunar Science Forum

July 21-23, 2009

agenda

Day 1 **Tuesday,** July 21, 2009

time	event	location
8:00 - 8:30 am	**REGISTRATION/COFFEE** (Coffee Served in Tent)	Confernece Center (Bldg. 3)
8:30 - 9:15	**Welcome Speakers: David Morrison, S. Pete Worden James Green, John Olson and Jeffrey Moore**	Bldg. 3, Ballroom
LRO Overview, Chair - Richard Vondrak		
9:15 - 9:30	**Richard Vondrak,** Overview of the LRO Mission	Bldg. 3, Ballroom
9:30 - 9:45	**Craig Tooley,** Design and Implementation of the LRO Mission	Bldg. 3, Ballroom
LRO Instruments		
9:45 - 10:00	**Mark Robinson,** Lunar Reconnaissance Orbiter Camera (LROC) Overview	Bldg. 3, Ballroom
10:00 -10:30	**BREAK**	Tent
10:30 - 10:45	**David Smith,** The LRO Laser Altimeter (LOLA); Capabilities and Early Observations	Bldg. 3, Ballroom
10:45 - 11:00	**Igor Mitofanov,** LEND: The Lunar Exploration Neutron Detector	Bldg. 3, Ballroom
11:00 - 11:15	**Randy Gladstone,** LAMP: The Lyman-Alpha Mapping Project	Bldg. 3, Ballroom

time	event	location
LRO Instruments (Continued)		
11:15 - 11:30 am	**Harlan Spence,** CraTER: The Cosmic Ray Telescope for the Effects of Radiation	Bldg. 3, Ballroom
11:30 - 11:45	**Stewart Nozette,** Mini-RF: The Miniature Radio Frequency Demonstration Project	Bldg. 3, Ballroom
11:45 - 12:00	**David Paige,** The LRO Diviner Lunar Radiometer	Bldg. 3, Ballroom
LCROSS		
12:00 - 12:15 pm	**Anthony Colaprete,** Impact Minus 93 days: A LCROSS Update and First Results From Lunar Swingby	Bldg. 3, Ballroom
12:30 - 2:00	**LUNCH/POSTER VIEWING**	Tent
International Missions, Chair - TBD		
2:00 - 2:20	**Manabu Kato,** Kaguya Mission and its Lunar Science	Bldg. 3, Ballroom
2:20 - 2:40	**Jitendra N. Goswami,** Chandrayaan	Bldg. 3, Ballroom
2:40 - 3:00	**Carlé Pieters,** Chandrayaan Moon Mineralogy Mapper	Bldg. 3, Ballroom
3:00 - 3:20	**Paul Spudis,** The Mini-SAR imaging radar on the Chandrayaan-1 Mission to the Moon	Bldg. 3, Ballroom
3:20 - 3:40	**BREAK**	Tent

Day 1 continued **Tuesday,** July 21, 2009

time	event	location
Commerce and Innovation, Chair -Greg Schmidt		
3:40 - 4:00	**Dennis Wingo,** Lunar Orbiter Image Recovery Project Progress Report	Bldg. 3, Ballroom
4:00 - 4:20	**Robert Kelso,** Leveraging Early Commercial Services for Lunar Vision	Bldg. 3, Ballroom
4:20 - 4:40	**Robert (Bob) Richards,** Founder & CEO of Odyssey Moon Limited, Odyssey Moon: Preparing for Moon 2.0	Bldg. 3, Ballroom
4:40 - 5:00	**William Pomerantz,** Senior Director, Space Prizes, X PRIZE Foundation, "The Google Lunar X PRIZE	Bldg. 3, Ballroom
5:00 - 6:00	**POSTER SESSION/Cheese and Wine**	Tent
6:00 - 7:30	**SHOEMAKER AWARD, David Morrison Presenting, Don Wilhelms Speaking**	Tent

Start of Day 2 **Wednesday,** July 22, 2009

time	event	location
8:00 - 8:30 am	**Coffee**	Tent
Coming Attractions, Chair - TBD		
8:30-8:50	**Maria Zuber,** The Interior of the Moon	Bldg. 3, Ballroom
8:50-9:10	**Terrence Fong,** Robotic Recon for Human Exploration Field Experiment	Bldg. 3, Ballroom
9:10-9:30	**Jack Burns,** Exploring the Cosmos from the Moon	Bldg. 3, Ballroom

Day 2 continued **Wednesday,** July 22, 2009

time	event	location
9:30 - 9:50	**Brian O'Brien,** Towards Optimising Understanding of Lunar Dust from Revisiting Apollo Information	Bldg. 3, Ballroom
9:50 - 10:30	**BREAK**	Tent

Start 10:30 am Contributed Sessions I-A and I-B

Session I-A On The Moon Co-Chair: Brad Bailey & Erin Tranfield Bldg. 3, Showroom	Session I-B Of the Moon: Geosciences Co-Chairs: Barbara Cohen & Ben Bussey Bldg. 3, Ballroom
10:30 -10:40	**Christopher Wohl,** High Fidelity Topographical Modification of Materials for Lunar Dust Adhesion Mitigation
10:30 - 10:40	**Barbara Cohen,** Pulling Marbles from a Bag: Deducing the Regional Impact History of the SPA Basin from Impact-Melt Rocks
10:40 - 10:50	**Erika Harnett,** Energetic Particle Flux at the Moon While in the Terrestrial Magnetosphere
10:40 - 10:50	**Robert Grimm,** Water and the Electrical Conductivity of the Moon
10:50 - 11:00	**Frank Schowengerdt,** Lunar Human Ecology: A New Scientific Discipline
10:50 - 11:00	**Luis Teodoro,** The Spatial Distribution Of Lunar Polar Hydrogen Deposits After SELENE
11:00 - 11:10	**Pamela Clark,** An Electrostatically Based Low Power and Mass Tool for Lunar Dust Removal
11:00 - 11:10	**Dimitri Papanastassiou,** Irradiation Effects on the Lunar Surface: Regolith Mixing and Safety
11:10 - 11:20	**Jenny Devaud,** Surfaces That Shed Lunar Dust: Development, Performance and Characterization
11:10 - 11:20	**Roy Christoffersen,** Effect Of Space Radiation Processing On Lunar Soil Surface Chemistry: Insights From X-Ray Photoelectron Spectroscopy

Day 2 continued **Wednesday,** July 22, 2009

Start 11:20 am — Contributed Sessions I-A and I-B continued

11:20 - 11:30	**Robert Corsaro,** Large Area Lunar Dust Flux Measurement Instrument
11:20 - 11:30	**Shouliang Zhang,** Titanium and Iron Valence Distribution in Space Weathered Ilmenite Grains
11:30 - 11:40	**Sarah Noble,** The Lunar Mapping and Modeling Project
11:30 - 11:40	**Irene Antonenko,** Identifying Dark-Haloed and Non-Dark-Haloed Craters from Fused Lunar Data Sets: A New Look at the Mare Humorum Region of the Moon
11:40 - 11:50	**J.-C. Liou,** An Impact Sensor System for the Characterization of the Micrometeoroid and Lunar Secondary Ejecta Environment
11:40 - 11:50	**Amanda Hendrix,** The ultraviolet reflectance of the Moon as measured by Cassini UVIS
11:50 - 12:00	**William Farrell,** Dynamic Response of the Environment At the Moon (Dream): A NLSI Team Exploring the Solar-Lunar Connection
11:50 - 12:00	**Dana Hurley,** The Lunar Surface-Atmosphere Interaction and Its Effect on Atmospheric Distribution
12:00 - 12:10	**Rongxing Li,** Prototype Development for a Lunar Astronaut Spatial Orientation and Information System (LASOIS)
12:00 - 12:10	**Ben Bussey,** Polar Illumination Conditions
12:10 - 12:20	**Erin Tranfield,** Chemical Activation of Lunar Dust Specimens and Simulants
12:10 - 12:20	**Miriam Riner,** The Importance of Ilmenite in Interpreting Lunar Surface Composition from Spectroscopy
12:20 - 12:30	**Laurel Jones,** Abrasive Effects of Lunar Dust, JSC Simulants, and Sandpapers on Skin and Acrylic Samples, Measured by Electrical Resistance and Confocal Microscopy
12:20 - 12:30	**Bruce Runnegar,** Geological and geophysical constraints on the orbital evolution of the Moon
12:30 - 2:00	**LUNCH/POSTER VIEWING** — Tent **FOCUS GROUP MEETINGS** — Building 17

Start 2:00 pm Contributed Sessions II-A and II-B continued

Session II-A On The Moon Co-Chairs: Jerome Johnson & Mihaly Horanyi Location - Bldg. 3, Showroom	Session II-B Of the Moon: Missions Co-Chairs: Diane Wooden & TBD Location - Bldg. 3, Ballroom
2:00 - 2:10 pm	**Jerome Johnson,** Evaluating the ability to conduct surface operations on the Moon as part of the project "Surface operations/scientific exploration potential of the lunar poles"
2:00 - 2:10	**Mark Robinson,** Apollo Scan Project
2:10 - 2:20	**Carlton Allen,** High-Grading Lunar Samples
2:10 - 2:20	**Jacob Bleacher,** Insights into lunar EVA design based on comparison between field work and Apollo-style field plans at the McCartys Flow, NM
2:20 - 2:30	**Timothy Stubbs,** On the Possible Role of Dust in the Lunar Ionosphere
2:20 - 2:30	**David Glenar,** Optical Scattering Processes Observed at the Moon: Predictions for the LADEE Ultraviolet/Visible Spectrometer
2:30 - 2:40	**Kris Zacny,** Methods and Considerations for Heat Flow Probe Deployment
2:30 - 2:40	**Zoltan Sternovsky,** The Lunar Dust EXperiment (LDEX) for the Lunar Atmosphere and Dust Environment Explorer (LADEE) Mission
2:40 - 2:50	**David McKay,** Lunar Dust: Properties, Hazards and Countermeasures
2:40 - 2:50	**Diane Wooden,** Spectroscopic Search for Water Vapor & Water Ice in the LCROSS Ejecta Plume from Mauna Kea Telescopes
2:50 - 3:00	**Robert Ferl,** Molecular Genetic Telemetry in Analog Environments
2:50 - 3:00	**Benjamin Greenhagen,** LRO Diviner Lunar Radiometer Commissioning Phase Activities

3:00 pm Contributed Sessions II-A and II-B continued

3:00 - 3:10	**Mihaly Horanyi,** Dust Environment Of The Moon: Expectations For LADEE/LDEX
3:00 - 3:10	**Michael Broxton,** Automated Stereo Reconstruction of Apollo 15 Metric Camera Image Pairs
3:10 - 3:20	**Bernard Foing,** Validation of Instruments, Robotics , EVAs and Human Research from ExoHab Field Campaign in Utah
3:10 - 3:20	**Giovanni De Angelis,** Models Of The Moon Radiation Environment and a Comparison With The RADOM Experiment Data on Board The CHANDRAYAAN-1 Spacecraft
3:20 - 3:30	**Mian Abbas,** Measurements of Lunar Dust Charging Properties by Electron Impact
3:30 - 4:00 PM	**BREAK** Location - Tent

4:00 pm Contributed Sessions III-A and III-B

Session III-A Of The Moon: Geosciences
Co-Chairs: Bonnie Buratti & Aaron Zent
Location - Bldg. 3, Showroom

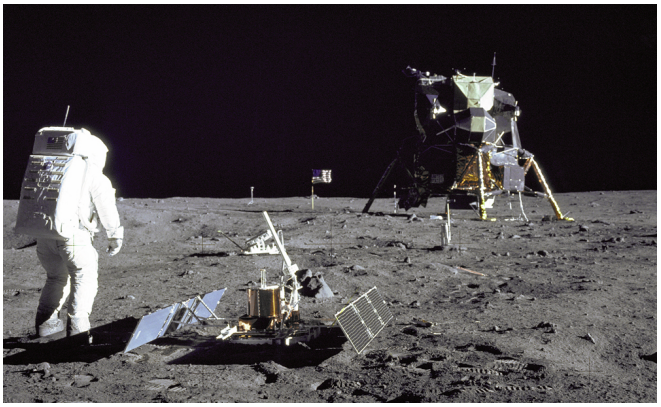
Session III-B From the Moon & Non-Human Biology
Co-Chair: Debra Reiss-Bubenheim & TBD
Location - Bldg. 3, Ballroom

4:00 - 4:10	**Bonnie Buratti,** A photometric function for the lunar surface
4:00 - 4:10	**Judd Bowman,** 21 cm global signal: Earth-based constraints and implications for lunar observations
4:10 - 4:20	**Aaron Zent,** Chemical reactivity of activated lunar regolith grains
4:10 - 4:20	**Steven Furlanetto,** Cosmology from the Moon
4:20 - 4:30	**Bernard Foing,** Synthesis of SMART-1 lunar results for future exploration
4:20 - 4:30	**Douglas Currie,** A Lunar Laser Ranging Array for the 21st Century

Day 2 **Wednesday,** July 22, 2009
continued

4:30 pm Contributed Sessions III-A and III-B continued

Session III-A Of The Moon Geosciences Location - Bldg. 3, Showroom	Session III-B From the Moon & Non-Human Biology Location - Bldg. 3, Ballroom
4:30 - 4:40	**Gwen Bart,** High Velocity Ejection of Large Blocks Inhibited by Impact Into Lunar Regolith
4:30 - 4:40	**Jacqueline Hewitt,** The Lunar Array for Radio Cosmology (LARC)
4:40 - 4:50	**Sho Sasaki,** Global Topography and Gravity of the Moon Observed by KAGUYA
4:40 - 4:50	**Oana Marcu,** Oxidative stress response of biological organisms exposed to lunar dust simulants
4:50 - 5:00	**Sarah Braden,** ROLO UV Observations of the Moon: Mapping Variations Within the Nearside Mare
4:50 - 5:00	**Cary Mitchell,** Enabling ESM Reduction for Food Production at the Lunar Base
5:00 - 5:30	**POSTER SESSION/Wine and Cheese** Location - Tent
5:30 - 7:30	SPECIAL EVENT Apollo Panel: **Palmer Dyal, Gary Lofgren, Brian O'Brien, Lee Silver, and Don Wilhelms Moderator - Andrew Chaikin** Location - Tent



In 1969, Apollo 11 astronaut Buzz Aldrin stands besides a recently deployed lunar seismometer, looking back toward the lunar landing module.

Start of Day 3 **Thursday,** July 23, 2009

time	event	location
8:00 - 8:30 am	**Coffee**	Tent

Missions, Chair - TBD

8:30 - 9:15	**Dr. Hao Xifan,** CNSA, Chang'e 2 Plans and Chang'e 1 Results	Bldg. 3, Ballroom

LEAG at the Lunar Science Forum/ Theme: Decadal Survey Input

9:15	**Introduction, Clive R. Neal**	Bldg. 3, Ballroom
9:30	**Steve Mackwell**, The Decadal Survey & the Moon	Bldg. 3, Ballroom
9:45	**Clive R. Neal,** Lunar Exploration Roadmap	Bldg. 3, Ballroom
10:00	**Chip Shearer,** Lunar Sample Acquisition and Curation Review	Bldg. 3, Ballroom
10:15	**Brad Jolliff,** Last Decadal Overview	Bldg. 3, Ballroom
10:30	**BREAK**	Tent

LEAG at the Lunar Science Forum/ Theme: Decadal Survey Input

10:40 am	**Barb Cohen,** Future Missions: ILN,	Bldg. 3, Ballroom
11:00	**Greg Delory,** Future Missions: LADEE	Bldg. 3, Ballroom
11:20	**Maria Zuber,** Future Missions: GRAIL	Bldg. 3, Ballroom
11:40	**Jeff Plescia,** What lunar science questions remain?	Bldg. 3, Ballroom
12:00	**Clive R. Neal,** Next Mission after ILN: Report from the LPSC "Next Mission" forum,	Bldg. 3, Ballroom

Day 3 **Thursday,** July 23, 2009

time	event	location
12:15	**LUNCH**	Tent
1:00 pm	**BREAKOUT GROUPS:**	
Group A	**Bill Bottke,** Impact history of the Moon	Bldg. 3 Ballroom
Group B	**TBA,** Volatile budget of the Moon (not just the poles),	Bldg. 3 Showroom
Group C	**Brad Jolliff,** Unexplored regions of the Moon (excluding poles and impacts),	Bldg. 3 Northwing
3:00 pm	Plenary – Summary and Conclusions	Bldg. 3 Ballroom

Notes

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